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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,799	12/13/2004	David K.Y. Low	57765US004	8965

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3M INNOVATIVE PROPERTIES COMPANY  
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ST. PAUL, MN 55133-3427

EXAMINER
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DANIELS, MATTHEW J

ART UNIT	PAPER NUMBER
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1791

NOTIFICATION DATE	DELIVERY MODE
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12/24/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/517,799	<b>Applicant(s)</b> LOW ET AL.	
	<b>Examiner</b> MATTHEW J. DANIELS	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. **Claim 5** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites “in particular” which makes it unclear and indefinite if that which follows is required by the claim or merely an example.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-3** are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Warner (WO 00/69594). **As to Claims 1-3**, Warner teaches a process for providing a hole into a component having an internal cavity which could be used as a valve stem comprising providing an article with a passageway (28), and filling the passageway with a fluid (page 3, lines 8-26), and laser drilling a side port (page 8). The use of a stationary fluid in that passage, as disclosed by Warner (page 3, lines 19-23) has been interpreted to inherently require a step of sealing the fluid within the cavity and unsealing the outlet to

Art Unit: 1791

remove the fluid. However, in the alternative, it would have been obvious to one providing a stationary fluid in the passage to provide a seal to avoid leaking of the fluid from the passage to provide a seal to prevent such leakage, and to remove the seal upon completion of the drilling of the holes.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alband (WO 99/55600) in view of Warner (WO 00/69594). **As to Claims 1 and 2**, Alband teaches a valve stem component (Abstract) having an internal cavity (Figs. 2 and 3) and a method comprising the step of drilling a hole through the component into the internal cavity (page 14, lines 23-24).

Alband is silent to the filling and sealing of a fluid within the cavity and laser drilling the hole.

However, Warner teaches placing a fluid in a passage, and sealing the fluid within the cavity would have been implicit or obvious in that the fluid remains stationary in the cavity ("fluid may remain stationary", page 3, lines 19-20). A hole is drilled using a laser (pages 6 and 7).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Warner into that of Alband because (a) Alband

Art Unit: 1791

suggests a step of drilling a hole (page 14, lines 23-24) and Warner provides a process for drilling a hole, (b) Alband suggests a step of drilling a hole (page 14, lines 23-24), and Warner provides an alternative process for drilling holes such that one would have recognized the Warner process as an obvious substitute for the drilling process of Alband, or (c) the use of Warner's laser drilling process would produced an expected improvement over drilling with a mechanical drill because the evaporation and melting produced by the laser would minimize burr formation, and this improvement would have been obviously desirable in the Alband process.

**As to Claims 3, 4, and 9**, Alband teaches a method of manufacturing a valve stem (Abstract) comprising:

(a) providing a vale stem work-piece having a passageway with an outlet by thermoplastic injection molding (page 3, lines 17-18) or deep drawing a metal step (page 3, lines 15-16);

(d) drilling a side port through the workpiece into the passageway (page 14, lines 23-24).

Alband is silent to step (b), step (c), the laser drilling of step (d), and step (e).

However, Warner teaches placing a fluid in a passage, and sealing the fluid within the cavity would have been implicit or obvious in that the fluid remains stationary in the cavity ("fluid may remain stationary", page 3, lines 19-20). A hole is drilled using a laser (pages 6 and 7). Unsealing the article and removing the fluid would have been implicit since the article is subsequently used for its intended purpose.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Warner into that of Alband because (a) Alband suggests a step of drilling a hole (page 14, lines 23-24) and Warner provides a process for

Art Unit: 1791

drilling a hole, (b) Alband suggests a step of drilling a hole (page 14, lines 23-24), and Warner provides an alternative process for drilling holes such that one would have recognized the Warner process as an obvious substitute for the drilling process of Alband, or (c) the use of Warner's laser drilling process would produced an expected improvement over drilling with a mechanical drill because the evaporation and melting produced by the laser would minimize burr formation, and this improvement would have been obviously desirable in the Alband process.

**As to Claims 5 and 8**, it is submitted that Alband provides articles with contours (Figs. 2 and 3), which would obviously be produced by thermoplastic injection molding as described above, and forming a passageway by drilling (page 13, lines 23-24). In combination with Warner, it would have been obvious to form the passageway and outlet by laser drilling as set forth above with respect to Claim 1. **As to Claim 6**, as an alternative to thermoplastic injection molding, Alband teaches cold forging (page 18, lines 13-15). **As to Claim 7**, Alband suggests cold forging (page 18, lines 13-15) a metal (page 5, line 7) valve stem (page 5, line 13) and forming the passageway and outlet by drilling (page 13, lines 23-24). **As to Claim 10**, Alband suggests inserting a plug or sealing device in the interior of the passageway (Fig. 2, item 46, page 12, lines 12-21) between the closed end and the side port and curling the outlet end inwardly (Fig. 2, item 42, page 10, lines 4-12). Any order of performing the disclosed process steps in combination with the formation of the hole of Tessier would have been obvious.

### ***Response to Arguments***

4. Applicant's arguments, see page 2 of the response filed 25 September 2008 with respect to the rejection of Claims 1 and 3 under 35 USC 103(a) have been fully considered and are

Art Unit: 1791

persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Warner, or Alband in view of Warner, as set forth above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/  
Primary Examiner, Art Unit 1791  
12/18/08

Application/Control Number: 10/517,799

Page 7

Art Unit: 1791